

AMENDMENTS TO THE CLAIMS

Claims 1-11. Canceled.

12. (Currently amended) A method of determining a concavity or a convexity of line and space patterns of a sample, the line and space patterns being arranged alternately on the sample, the method comprising the steps of:

scanning the line and space patterns on the sample with a charged particle beam;

forming, a profile waveform based on detected charged particles emitted from each of the scanned portions of the sample, a profile waveform of an intensity of the charged particles;

forming a derivative waveform of said profile waveform;

comparing, referring to first and second peaks, which are adjacent positive and negative peaks a first distance between zero (flat line) and a positive peak of said derivative waveform that are generated at positions corresponding to opposite sides of a single peak of said profile waveform, a first distance between a first zero-point of the derivative waveform and a corresponding peak position of said first peak with a second distance between a peak position of said second peak and a corresponding second zero-point on one of the right and left sides of each peak position of said profile waveform with a second distance between zero (flat line) and a negative peak of said derivative waveform generated on the other of the right and left sides of each peak position of said profile waveform; and

determining, based on the comparison of the first and second distances and referring to said first and second peaks of said derivative waveform, a region between adjacent peak positions of said profile waveform, a regions of the sample correspondingly adjacent to [[a]] regions of said first and second peaks of the derivative waveform to be the space pattern and the line pattern, respectively, when said second distance is longer than said first distance having a pair of longer distances of the compared first and second distances of said derivative waveform to be the line pattern, and determining [[a]] regions of the sample correspondingly adjacent to [[a]] regions of said first and second peaks of the derivative waveform to be the line pattern and the space pattern,

respectively, when said first distance is longer than said second distance having a pair of shorter distances of the compared first and second distances of said derivative waveform to be the space pattern.

13. (Previously presented) The method of determining a concavity or a convexity of line and space patterns of a sample according to claim 12, wherein widths of the line pattern and the space pattern are substantially equal.

14. (Currently amended) A method of determining a concavity or a convexity of line and space patterns of a sample, the line and space patterns being arranged alternately on the sample, the method comprising the steps of:

scanning the line and space patterns on the sample with a charged particle beam;

forming ~~a profile waveform~~ based on detected charged particles emitted from each of the scanned portions of the sample, a profile waveform of an intensity of the charged particles;

forming a derivative waveform of said profile waveform;

obtaining, referring to first and second peaks which are adjacent positive and negative peaks of said derivative waveform that are generated at positions corresponding to opposite sides of a single peak of said profile waveform, an evaluation value from each of said first and second peaks;

comparing the evaluation value obtained from said first peak with the evaluation value obtained from said second peak ~~the magnitudes of evaluation values obtained from a positive peak and a negative peak of said derivative waveform, said positive peak and negative peak being generated on the right and left sides of each peak of said profile waveform;~~ and

determining, based on the comparison of the evaluation values and referring to said first and second peaks of said derivative waveform corresponding a region between adjacent peak positions of said profile waveform, [[a]] regions of the sample correspondingly adjacent to [[a]] regions of said first and second peaks of the derivative waveform to be the space pattern and the line pattern, respectively, when said evaluation value obtained from said second peak is larger than said

~~evaluation value obtained from said first peak having a pair of larger evaluation values of the compared evaluation values to be the line pattern, and determining [[a]] regions of the sample correspondingly adjacent to [[a]] regions of said first and second peaks of the derivative waveform to be the line pattern and the space pattern, respectively, when said evaluation value obtained from said first peak is larger than said evaluation value obtained from said second peak having a pair of smaller evaluation values of the compared evaluation values to be the space pattern.~~

15. (Currently amended) The method of determining a concavity or a convexity of line and space patterns of a sample according to claim 14, wherein each evaluation value corresponds to a distance (interval) between zero (flat line) and a peak position for each of the pair of positive and negative first and second peaks of said derivative waveform; ~~the pair of positive and negative peaks being generated corresponding to the right and left feet of each peak position of said profile waveform.~~

16. (Previously presented) The method of determining a concavity or a convexity of line and space patterns of a sample according to claim 14, wherein widths of the line pattern and the space pattern are substantially equal.

17. (Previously presented) A measurement method comprising the steps of:
determining a target location for measurement of said sample based on the positions of said line and/or space patterns determined by the method of determining a concavity of a convexity of line and space patterns of a sample according to claim 12; and
measuring said sample.

18. (Previously presented) A measurement method comprising the steps of:
determining a target location for measurement of said sample based on the positions of said line and/or space patterns determined by the method of determining a concavity of a convexity of line and space patterns of a sample according to claim 14; and
measuring said sample.